

# Weekly Report 2016.07.25-2016.07.31

## Progress:

### 1. Huawei Project.

### 2. Temporal Ensemble Rankings

I summarized the points in the review and listed the tasks we need to do.

改进计划	
INTRODUCTION	讲明为什么要用 ensemble 和 ranking 的办法解决 structural hole spanner。 解释为什么要比较多种 brokerage indicators。
RELATED WORK	更改 clutter problem 的表述。
OVERVIEW	重新定义 task。 重新优化 design goals。
DESIGN	在描述各个 view 的 design 前，应当给出一个整个系统的 big picture。 重新设计 glyph 或者解释为什么要使用 radial 的设计。 对 evolution pattern 进行解释，最后给出一个明确的分类。 visual design 重新写。
CASE STUDY	有 review 提到去掉第二个 case，详细写第一个 case。 目前的描述比较比较口头，需要重新改写。 增加 case 的细节。
USER STUDY	目前的 user study 太过 informal，应该结合分析任务，提出假设，设计流程，验证假设。详细描述这个过程的控制变量。
整体的问题	切题太慢，前面写的太啰嗦。 单词的换行分段有问题。 许多论述存在问题，需要仔细推敲，并查阅相关文献。

### 3. Vis Poster Videos

The video of TCPTree is almost done.

I have already cut the video of SpannerFinder, I'll finish the video by tomorrow.

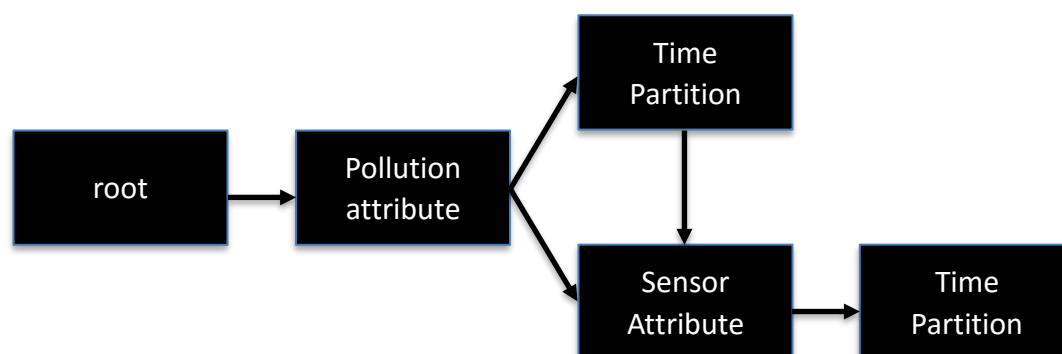
### 4. TCPTree

This week I talked with Dr. Xia, Dr. Mei, and the two professors from America about the TCPTree. When I introduced the TCPTree to the professors, they gave me some advices, including the arrow is redundant, links between the parent and the children are too wide, and

the time partition nodes are too small to attract them to explore the nodes. They also mentioned that they like the design of the tree, which is a great thing.

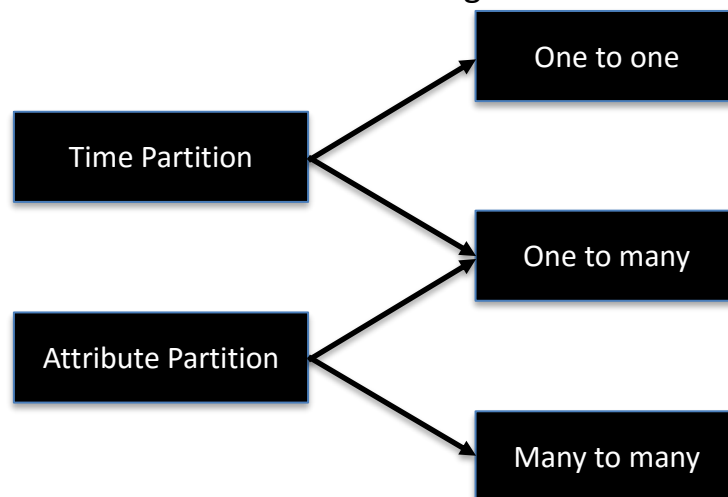
Later I talked with Dr. Xia and Dr. Mei. We think that there are three aspects we can enhance in the system.

The first and the most important aspect is to enhance the concept of “partition” in the Time-Correlation-Partition Tree. Currently, the partition



in the system is a bit weak, we only support the user to explore the data by the following order:

But we think that the partition operation can be more adaptive. There are three types of relationships and two types of partition, the relationship between them are as following:



For example, the root node represents the many-to-many relationship, we can only use attribute partition on this node, but the partition operation can be applied either on sensors or pollution on the root node.

Then we can define the partition operation for every node in the

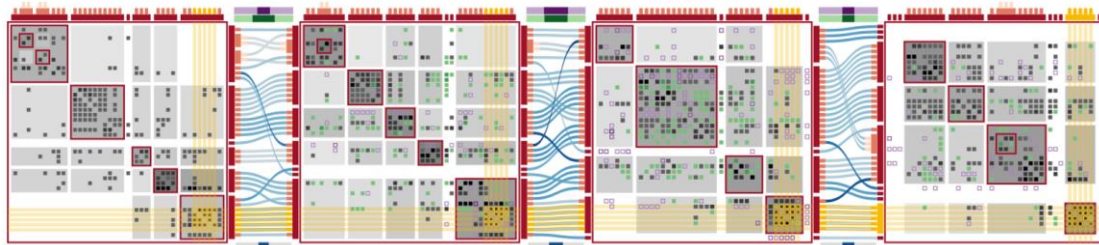
TCPTree. Therefore, the exploration of the TCPTree can be a more interactive procedure and the user can choose the available partition operations they want to partition the correlations.

The second aspect is that when we partition the node in the TCPTree, we can use some data mining or machine learning methods to do the partition work and let the user to adjust the partition results.

The third aspect is the design in the TCPTree node, we think we should really refine the current design.

## 5. Papers

### a. Visualizing Dynamic Hierarchies in Graph Sequences



This paper visualizes the hierarchies changes in the dynamic networks. Similar with Zhaojian's paper, they all use linked matrix to represent dynamic networks. But this work more concentrate on the hierarchical structure changes.

### Plan:

#### 1. Huawei Project

Finish the interactions.

Finish the requirement analysis.

#### 2. Vis Submission

Finish the motivation of this work.

#### 3. TCP Tree